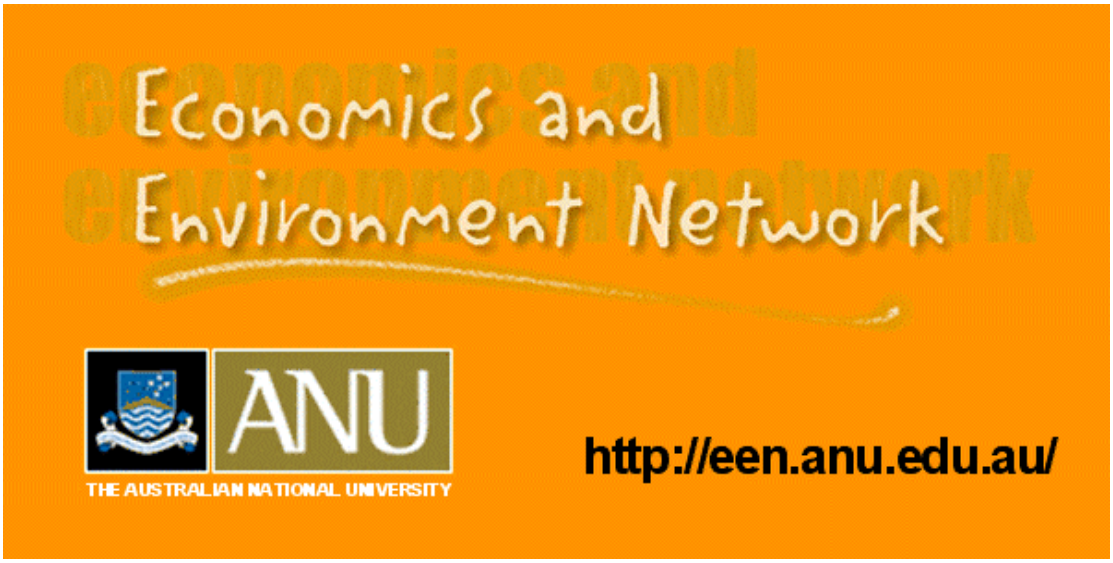

Developing countries and the future of the Kyoto Protocol

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Economics and Environment Network Working Paper
EEN0406

15 October 2004

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15 October 2004

Abstract:

Developing countries will need to be involved if a future international agreement is to be effective in slowing climate change. Under the Kyoto Protocol's first commitment period (2008–12), developing countries have not got emissions targets, and the United States have opted out. Whether the Kyoto Protocol will live and have 'teeth' in future depends on negotiations which are due to formally begin in 2005. Current conflicting positions between developing countries, the United States, and Europe appear entrenched, but progress could be made towards cooperation if developing countries' interests are paid heed and a balance on equity issues is achieved. This paper interprets some of the politics and economics surrounding developing country participation in international climate policy, including future emissions targets, the Clean Development Mechanism (CDM), and adaptation to climate change.

Keywords: Climate policy, Kyoto Protocol, international environmental negotiations, developing countries.

JEL codes: F02, Q01, Q38, Q56.

Fundamental Dilemmas

Developing countries are home to five out of the six billion people, but historically have contributed only around one quarter of greenhouse gases from energy consumption now accumulated in the atmosphere. Energy use and emissions per person in developing countries on average are still only around a quarter of that in industrialized countries. Resources for economic restructuring are much more limited in developing countries, with average per capita incomes less than one quarter than those in the industrialized world.[2] Moreover, adverse impacts of climate change are likely to affect developing countries particularly badly.

A compelling ethical case can thus be made that poorer countries should be free to develop economically without greenhouse gas constraints, while rich countries – which after all have built much of their wealth through energy-intensive industrialization – should go ahead and reduce their emissions in the global interest. Poorer countries insist on their 'right to develop', and greenhouse gas constraints (along with other environmental policies) are often seen as obstacles to development. As Adil Najam observed:

> The principal and unchanged interest of the South has remained *development* and a better quality of life for its people; its principal fear, that the North is using environmental issues as an excuse to pull up the development ladder behind it.[3]

But limiting global warming to avoid the worst of the potential negative impacts will require a drastic change in the emissions trajectories in both rich and poor countries, so developing countries will need to take part in the effort. Developing countries already account for around half of annual global greenhouse gas emissions, and future emissions growth will come mainly from current developing countries.

Engaging key developing countries is also vital to help make greenhouse gas control politically acceptable in industrialized countries. There is little prospect of the United States taking on obligations under an international climate agreement if major developing countries, in particular China and India, do not have commitments. Where developing

[2] Comparing GNP adjusted for purchasing power. The difference is even greater when comparing GNP at exchange rates. Data from World Resources Institute (WRI 2003. 'Industrialized countries' is defined as OECD members and economies in transition (Russian Federation, Ukraine, Eastern Europe); 'developing countries' as all others.
[3] Najam 1995.

country representatives insist that for reasons of fairness and equity they should not be subject to emissions limits, rich countries counter by arguing in terms of impacts on industrial competitiveness and the cost effectiveness of policies. Even if major developing countries were prepared to take on emissions targets, the dispute over who should carry the burden of climate policies, and more generally over how global resources should be shared, will be difficult to resolve.

Europe is pushing for deeper commitments for a broader set of countries; the United States have rejected the Kyoto Protocol altogether, after earlier insisting on quantitative commitments for developing countries; and most developing countries have so far refused to even discuss future commitments. National circumstances differ greatly between groups of countries, and there are conflicting interests among developing countries. It is not clear yet what will be the negotiating positions of key developing countries in the lead-up to negotiations on the second commitment period of the Kyoto Protocol, due to begin in 2005. The official climate negotiations have not tackled the issue of future commitments; most of the discussion to date has taken place among think tanks, academia and NGOs.

Developing Country Participation in Global Climate Policy

Equity issues have figured prominently in past and present climate negotiations, and the need to differentiate commitments between countries was recognised early on in the global environmental negotiations. The 1992 United Nations Framework Convention on Climate Change (UNFCCC) has enshrined in it the principle of 'common but differentiated responsibilities', and the notion that industrialized nations should lead the way. The Convention has been ratified by all major countries, including the United States, yet there is no global consensus about who should do how much to address the causes and impacts of climate change, and who should pay for it. One of the defining issues has been whether and when developing countries take emission targets. The Berlin Mandate of 1995, agreed to by all the major parties, stipulated that 'quantified emission limitation and reduction objectives' should be set for developed countries, but that no new commitments should be introduced for developing countries. This was the basis for the 1997 Kyoto Protocol.

Yet in rejecting the Kyoto Protocol, the US administration under President Bush pointed to the fact that large developing countries such as China and India have no commitments. In a 2001 letter to US senators, referring back to the 1997 Byrd-Hagel Senate resolution that the United States should not sign an agreement which includes new greenhouse gas commitments unless developing countries also face such commitments in the same commitment period, President Bush wrote:

> As you know, I oppose the Kyoto Protocol because it exempts 80 percent of the world, including major population centers such as China and India, from compliance, and would cause serious harm to the U.S. economy. The Senate's vote, 95-0, shows that there is a clear consensus that the Kyoto Protocol is an unfair and ineffective means of addressing global climate change concerns.[4]

The Howard government in Australia decided against ratifying the Kyoto Protocol soon after the Bush administration rejected the Protocol, and with similar justifications. According to Australia's then environment minister:

> The chorus of critics […] which joined the Kyoto conga line before it had the facts at its disposal, would do better to stop pretending that the Protocol will solve the global greenhouse problem. Kyoto will deliver at best around one per cent of abatement; fails to cover 75 percent of global greenhouse emissions and does not involve developing countries, who will soon emit over half the world's greenhouse gases. […] This government's policies […] will not sacrifice Australian jobs and investment for the sake of looking green rather than delivering real results.[5]

Energy intensive industries in industrialized countries have lobbied against the Kyoto Protocol because their competitors in developing countries would not face constraints on their emissions, and thus stand to gain a competitive advantage. The economic costs of complying with emissions targets have also been used as arguments against the Kyoto Protocol, with uncertainty about those costs exploited to accentuate high cost estimates.

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[4] "Text of a Letter from the President to Senators Hagel, Helms, Craig, and Roberts", White House press release, 13 March 2001.

[5] Media Release "Expert Debunks Government Critics on Kyoto" by Australia's Federal Minister for the Environment and Heritage, Dr David Kemp, 16 September 2002.

The Bush administration's uncompromising stance has reinforced many developing countries' public positions against taking on commitments until richer countries have taken action. This was borne out at the 9th Conference of Parties to the UNFCCC at New Delhi in October 2002, where the European Union made it clear that they expect developing countries to engage in a debate about how their emissions could be controlled in the future. The strong and consistent reaction from developing countries was that they would not even discuss the issue of future commitments.[6]

Some developing country governments might however be prepared to at least discuss commitments, partly as a way to re-engage the United States. Raúl Estrada Oyuela, chairman of the Kyoto meeting in 1997 and a key figure shaping the agenda of the 2005 Conference of Parties to the UNFCCC (COP10), was recently quoted as saying that there is a 'certain willingness' among delegates to discuss future commitments, in order to 'create an alternative for the United States to return to the system'.[7]

The refusal so far to discuss targets in the UNFCCC negotiations could be strategy or gamesmanship, but may also reflect confusion over how to proceed. The global climate negotiations have greatly increased the capacity for analysis of climate policy in both advanced and developing countries, but many poorer countries are still on the back foot. Most likely, only a select few developing countries have even considered options for future emissions targets.

As the Indian *Centre for Science and Environment* laments,

> Southern nations continue to be helpless bystanders in these negotiations. […] Their negotiating strategy has had two simple components: to squeeze small commitments on technology transfer and additional aid from the North; and to use these invariably unfulfilled commitments to stall future negotiations.[8]

It has also been argued that developing countries' concerns have been sidelined in the negotiations in recent years, as attention has focused on implementing the short-term Kyoto

[6] Jacob 2003.
[7] Marcela Valente, 'Climate Change: A small victory for the developing world', July 2004, www.globalinfo.org.
[8] 'Introduction', Agarwal et al. 2001.

targets in a way that minimizes cost to industrialized countries.[9] Now that the last remaining implementation provisions for the Kyoto Protocol have been agreed, attention could shift back to the big issues of global equity and vulnerability to climate change, with developing countries' interests figuring more prominently.

Attention in the climate policy debate focuses on China and India as the largest emitters among developing countries. Along with Brazil, they tend to lead the agenda of the G-77 (plus China) group of nations, who form the principal negotiating bloc of developing countries. Within that group, however, interests diverge considerably.[10] The countries most at risk from sea-level rise are united in the Alliance of Small Island States (AOSIS), who are demanding strong greenhouse commitments and help with adaptation to climate change. At the opposite end of the spectrum is OPEC, whose members are trying to protect their interests as oil and gas exporters. Saudi Arabia in particular has been known to obstruct the UN climate negotiations process.

Many individual developing countries (such as Argentina, Mexico, South Africa, the Philippines, Indonesia and others) have played active and constructive roles in the Kyoto process. As middle-income countries grow richer, they are likely to come under increasing pressure to take on climate commitments. Among lower-income countries, Indonesia is in a particularly interesting position, as a fossil fuel exporter and member of OPEC, but at the same time acutely aware of its vulnerability to climate change as an island state. Indonesia was the first OPEC country to start the ratification process for the Kyoto Protocol (in July 2004).

Forces Against a Second Commitment Period of the Kyoto Protocol…

The most fundamental question for the upcoming negotiations is whether there will indeed be a second commitment period under the Kyoto Protocol.

Opposition to Kyoto Protocol-style emissions targets is strong, with the United States as well as key developing countries claiming priority for economic growth over measures to limit or reduce emissions. Developing countries insist that they should be allowed to catch

[9] See Najam et al. 2003.
[10] Oberthür and Ott 1999.

up economically and not be subject to emissions targets, which are often seen as potential impediments to economic development. Insofar as developing countries give priority to economic growth over environmental impacts they are in tune with the position of the current US administration. If a strong alliance of countries giving absolute priority to short-term economic interests over longer-term sustainability were to arise, this would dim the prospects for a successful second commitment period. If the United States and possibly other states remain outside the Kyoto framework, this will tend to weaken European resolve to push ahead with more ambitious targets.

The current US administration champions a technology-driven approach, supporting research and development of technologies such as carbon capture and sequestration. Policies to cut the high levels of energy consumption in the United States have been fervently ruled out by the Bush administration:

> "The President believes that it's an American way of life, and that it should be the goal of policy makers to protect the American way of life. The American way of life is a blessed one. (…) The President believes that the American people's use of energy is a reflection of the strength of our economy."[11]

In spite of the Bush administration's heavy ideological bias, the idea of domestic measures for greenhouse gas control is becoming more acceptable in the United States, with greenhouse gas reduction programs now in place in at least one third of US states. These include goals by Northeast and Mid-Atlantic US states to reduce their aggregate emissions, Californian legislation to reduce carbon dioxide emissions from vehicles, and policy initiatives in various states for renewable energy, agriculture and sequestration, waste management, and so forth. Many of these programs are being replicated in other US states.[12] Yet at the federal level, opposition to commitments under an international treaty remains strong, though a recent bill for a national emissions cap was defeated only narrowly in the Senate in 2003.[14] While this shows a softening of the Senate's position,

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[11] White House Press Secretary Ari Fleischer, White House Daily Briefing, 7 May 2001. (http://usinfo.org/wf-archive/2001/010507/epf101.htm) [show date of retrieval]

[12] Rabe, Barry G., "Greenhouse and statehouse: The Evolving State Government Role in Climate Change". Arlington: PEW Center, 2002.

[13] The Lieberman-McCain Climate Stewardship Act of October 2003.

[14] The Lieberman-McCain Climate Stewardship Act of October 2003.

options such as technology development continue to have greater political support in the United States. Support for an international agreement based on technology policy rather than emissions limits also comes from other countries, notably Japan's economics ministry.

There is also a technical argument that Kyoto Protocol-style emissions targets and permit trading may not be the right policy instrument for global control of greenhouse gas emissions. Economists have shown that on theoretical grounds, harmonized taxes would perform better than emissions targets in dealing with the inevitable economic and environmental uncertainties. Some have argued that the Kyoto Protocol architecture should be abandoned and replaced by a system of harmonised taxes.[15] However, it is hard to see how an international system based purely on taxes could be feasible politically. Crucially, a tax-based agreement offers no obvious mechanism for compensating poorer countries for their efforts. Under emissions trading, this can be achieved through differentiating targets between countries.

…and in Favour

But there are also currents towards a continuation and expansion of the Kyoto Protocol. Perhaps the strongest point is the very fact that the Kyoto Protocol is the only game in town after more than a decade of global climate negotiations. Despite its shortcomings, the Protocol is likely to gain momentum as institutional arrangements are put in place and emissions trading develops, particularly if European backing remains strong. EU-wide emissions trading is being introduced, encompassing the majority of large-scale CO_2 emitters in Europe. Although obligations for domestic industries are weak compared to the Kyoto commitments, it is poised to be the largest emissions trading scheme ever implemented. The scheme could be extended to Canada, Japan and other countries that have ratified the Kyoto Protocol, and form the core of a future global greenhouse gas market.[16]

Some European governments have called for deep medium-term emissions cuts in their own countries, with the support of domestic constituencies for combating climate

[15] See for example McKibbin and Wilcoxen 2002. For the economic reasoning on taxes versus permits, see Weitzman 1974 and Pizer 2002.
[16] See Convery 2003.

change.[17] Rather than as an impediment to growth, environmental policy is often portrayed as promoting change and business opportunities in Europe. In the words of German environment minister Jürgen Trittin:

> Whoever does not participate in this ecological modernization misses the opportunity of modern efficiency technologies and new expanding markets for renewable energies technologies. Once the Kyoto Protocol enters into force, there will be an economic incentive for all countries to participate.[18]

British PM Tony Blair, in a speech calling for decisive global action on climate change and for the world's richest nations to lead the way, put it even more directly:

> Just as British know-how brought the railways and mass production to the world, so British scientists, innovators and business people can lead the world in ways to grow and develop sustainably.[19]

If the United States refuses to take part in the second commitment period, it is conceivable that Europe might strike a deal with some other industrialized and developing countries, forming a coalition for greenhouse gas mitigation. There would then be pressure by energy intensive industries to impose border taxes on products from countries that are not part of the treaty, deepening the split between members of the climate coalition and the rest of the world.

Yet there may even be a future for the Kyoto Protocol that involves global cooperation. If the Kyoto Protocol's first commitment period is seen as a success, at least in some measure, it could pave the way to more effective subsequent commitment periods. Mainstream rationalist approaches explain international treaty-making in terms of power relationships between nations that maximise narrowly defined self-interest, with free-riding the typical outcome. As Robyn Eckersley has argued, such worldviews miss out on important features that make cooperation possible.[20] Cooperating on international treaties is integral to being

[17] The UK government and Swedish governments have called for EU commitments to cut emissions by 60% by 2050 compared to 1990, while the German government proposed a cut of 40% by 2020, if an overall cut for the European Union of 30% by 2020 can be agreed.
[18] Trittin 2004.
[19] "PM speech on climate change", London, 14 September 2004 (http://www.number-10.gov.uk/output/page6333.asp). [accessed 15 September 2004].
[20] See Eckersley 2004.

an accepted member of the global community. Seen in this light, the United States, as well as developing countries that have or aspire to a role in global politics, may find that taking on greenhouse commitments becomes a token of good global citizenship. The more countries participate, the less acceptable it will become for some to remain outside.

Ultimately however, domestic influences will remain the strongest driving forces, especially for the United States and other large countries. Growing realisation of the danger of climate change also improves the prospects for a meaningful agreement. The greater the perceived risks and costs of climate change – for example by way of greater frequency and ferocity of hurricanes and other extreme weather events in North America – the greater will be the willingness to pay for measures to counteract it.

Greenhouse Targets for Developing Countries

The most contentious issue in the negotiations for the second commitment period is likely to be which countries take on emissions targets, and how those commitments should be differentiated. Developing countries could be allocated relatively generous targets, with correspondingly stricter targets in industrialized countries to ensure overall environmental effectiveness. That way, the same incentives to reduce emissions would apply in all participating countries, while poor countries would get compensation from selling permits to rich countries. A generous target was used to help draw Russia into the Kyoto Protocol.

Various rules for differentiating future targets that are based on equity principles have been proposed that would appeal to developing countries. The most prominent proposal is that of 'contraction and convergence'.[21] Under this model, global emissions would be reduced over time, and entitlements to emit would be proportional to population for each country after a transition period – a convergence towards equal per capita allocations across the globe. The underlying ethical position is that each human being has an equal right to the atmosphere, and if access to the atmosphere as a repository for greenhouse gases has to be rationed, then each person should be entitled to an equal share. Industrialized countries would be allocated many fewer permits than their current emissions, and thus have to buy

[21] See Meyer 1999, as well as the Global Commons Institute's website, www.gci.org.uk.

permits from developing countries. India and other developing countries with low per-capita emissions are supporting the concept of equal per-capita emissions rights, but others with relatively high emissions intensity (such as South Africa) would be unlikely to support this allocation rule.

How 'generous' or 'fair' targets for developing countries can be is however bounded by industrialized countries' willingness to pay. Equal per capita entitlements, for example, may ultimately be unacceptable to some rich countries. US per capita greenhouse gas emissions are four times greater than the global average, while India's per capita emissions are three times below the average. Under equal per capita allocations, the United States would have to buy permits from other countries for around three quarters of its total emissions even before any reduction commitments, which would mean huge financial transfers if permit prices are high. Even for Europe, where average per capita emissions are roughly half of those in the United States, equal per capita entitlements would mean that emissions budgets would be massively below current emissions.

To agree on equity models such as contraction and convergence would thus require a fundamental rethink in rich societies about what their fair share of global resources and the global environment is, to acknowledge that they have been using a far greater share than is rightfully theirs, and to drastically reduce their claim on global resources. There is no prospect of this happening any time soon, and thus little chance for schemes that would result in large financial transfers purely as compensation for the fact that rich countries are emitting more than developing countries. Further, schemes that are 'fair' at the national level do not necessarily translate into equitable outcomes domestically. The rents implicit in large permit allocations to poorer countries could be captured by elites.

Perhaps a system of differentiating commitments based on a combination of historical responsibility, potential for emission reductions and ability to pay could offer a way forward. Rules for indicative target levels based on a set of simple indicators, and a schedule for graduation of countries towards taking on commitments (possibly with non-binding commitments for poorer countries to begin with), could be a starting point for the negotiations.[22]

[22] See the synthesis from a recent dialogue among researchers from all world regions (Ott 2004). See also the

Flexible design of emissions targets to deal with uncertainty could also help make Kyoto-style commitments more palatable for developing countries. Various options for flexible design of emissions targets have been suggested, including intensity targets and non-binding targets.[23] Flexible targets have received some interest from developing country governments in the past. The most prominent example is Argentina, which in 1998, with encouragement by the US administration under President Clinton, proposed that it take on a 'voluntary target' linked to future GDP growth. That proposal was subsequently taken off the table, partly in response to pressure from the G-77 group of developing countries which opposed such voluntary commitments.[24]

A further complication is how emissions from land-use change would be included in any future targets for countries with high rates of deforestation, such as Brazil and Indonesia. On the one hand, emissions targets could provide an incentive mechanism to slow deforestation, with enormous potential side-benefits for biodiversity and local environments. Reducing vegetation clearing can be a simple and cheap way of slowing emissions growth in the short term, as is evident from Australia, where less land clearing is expected to partially offset continued strong growth in energy-related emissions.[25] On the other hand, including deforestation would introduce huge potential liabilities for some countries, if future deforestation rates were higher than anticipated. Enforcement of land-use policies can be appallingly deficient, as witnessed in Indonesia.

The Clean Development Mechanism

The Kyoto Protocol provides for greenhouse gas mitigation in developing countries by way of projects under the Clean Development Mechanism (CDM). Governments and companies that are subject to emission caps under the Kyoto Protocol can invest in projects to reduce emissions in developing countries, and offset some of their own emissions against

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position paper by the international climate NGO network (Climate Action Network 2003); and a number of proposals originating from research institutes, such as that by Michaelowa et al. 2003.

[23] Under an intensity target, emissions permits are linked to GDP growth, thereby compensating for fluctuations that stem from changes in economic activity. Under non-binding targets, some developing countries would be given the option to walk away from their commitments without penalty if compliance turned out to be difficult or costly. See Philibert and Pershing 2001; and Jotzo and Pezzey 2004.

[24] Bouille and Girardin 2002.

[25] Australian Greenhouse Office 2002.

the savings from these projects. The CDM is attractive to developing countries because it can bring investment in efficient technology, partly paid for by emission credits, and with little risk of negative economic effects.

As of June 2004, 160 CDM projects in 48 countries were being developed, with a combined mitigation effect of around 32 million tons CO_2-equivalent per year.[26] These projects would create emission credits worth more than US$ 100 million annually. Many more projects are expected further down the track. Asia is the most important host region, accounting for two thirds of the expected credits; India, Brazil, China and Indonesia are the most important potential host countries so far. Some large projects are planned for Indonesia, including geothermal power stations and the refurbishment of cement plants. In 2004, Indonesia ratified the Protocol and set up a domestic institutional framework for CDM, thus clearing the way for investment.

Demand for CDM credits comes principally from European governments (in particular the Dutch), the Japanese government, some private companies, and the World Bank 'Prototype Carbon Fund'. The European emissions trading scheme allows for credits from CDM projects to be used as offsets, so more demand from private industry is expected. Demand for CDM projects and prices paid for emissions credits are low compared to earlier estimates, mainly because the United States as the largest potential buyer has pulled out, but also because it turns out that there is a larger than expected potential for low-cost greenhouse gas reduction projects. The downside from a host country perspective is that at low prices, many technology intensive options that are attractive because of their side-benefits – in particular, renewable energy technologies – are generally not viable as CDM projects.

A further complication is that under the CDM, it has to be established whether and by how much a given project actually reduces emissions, compared to what would have happened otherwise. Too strict an interpretation of the rules could choke investment in the CDM, while too loose an interpretation could result in bogus 'projects' that provide little benefits to host countries and diminish the overall environmental effects of the Protocol. Developing country decisionmakers are aware of this. For example, Chinese government

[26] Data from Ellis et al. 2004.

officials have been reported as voicing concern that opportunities for China to obtain financial support and new technologies through the CDM could be spoiled, if rules are too lax.[27]

In the upcoming negotiations, developing countries can be expected to push for an expanded role of the CDM, with rules favouring projects with a strong technology transfer component and local side-benefits. However, developing countries' positions are divided over the potential role of forestry in the CDM, including projects to avoid deforestation (which are currently not part of the CDM). Brazil's was against including avoided deforestation projects under the Kyoto Protocol, apparently in part because such projects would mean losing control over parts of the Amazon to foreign interests.[28]

Adaptation to Climate Change

Climate change is going to happen even if global emissions growth can be slowed or reversed, because of long lags in the climate system. Increasingly, adaptation to climate change is coming into the spotlight, as the realisation dawns that there will inevitably be adverse impacts over the next decades. Tropical and subtropical countries are likely to be affected particularly badly by global warming. Impacts are expected in a wide range of systems, from water resources through agriculture to health. Storms, floods and droughts will be more frequent and more forceful. In many low-lying areas of Asia and the Pacific, sea-level rise is a threat to large populations.[29]

Building the physical infrastructure and changing economic and social structures to deal with these effects will be costly. Equity issues come to the fore again: rich societies have been the main source of the problem so far, but the impacts will tend to affect poorer societies most, and systems in developing countries will often be less resilient to climate change to start with. As Benito Müller so aptly put it:

[27] See Salter and Pearson 2003; and on Chinese concerns: UNDP and World Bank 2003.
[28] Johnson 2001.
[29] McCarthy et al. 2001.

> The cardinal climate change inequity is consequently not the *potentially* unfair allocation of mitigation targets but the *inevitably* unfair distribution of climate impact burdens.[30]

Developing countries increasingly demand assistance from rich countries in dealing with adverse impacts of climate change. Adaptation measures provide immediate local benefits, in contrast to policies to reduce emissions which give global benefits over the long term. As a consequence, the dynamics of negotiations and action will differ. There are clear incentives for each country or community to invest in protecting against climate change, as they reap the payoffs themselves.

Ironically however, the very fact that the incentive structure is simpler could exacerbate the equity problem, as incentives for rich countries to assist poor societies are much weaker in the case of adaptation. Whereas paying developing countries to reduce greenhouse gas emissions can be in industrialized countries' pure self-interest because it reduces the long-run extent of global climate change (and therefore the impacts on everyone), paying for adaptation in other countries is not, because benefits are local. Thus there is a case for a future treaty to take into account not just the level of economic development and opportunities for emissions reductions when defining commitments, but also each country's vulnerability and ability to adapt to climate change.[31] Adaptation could also be financed through multilateral funds such as the Global Environmental Facility (GEF), which would need greatly increased contributions from rich countries and a change in rules how funds are allocated to developing countries.

Adaptation to climate change is set to figure prominently in the negotiations at the COP10 climate conference in Buenos Aires in December 2005. This in itself has been seen as a significant success for developing countries – yet whether significant action will follow remains to be seen.

[30] Müller 2002.

[31] See Beg et al. 2002; and Najam et al. 2003.

Conclusion

The gulf between the main players' positions on future international climate policy is deep, and the upcoming negotiations for the second commitment period of the Kyoto Protocol will show the prospects for global cooperation. The first commitment period (2008–12) could lay some groundwork, through action on emissions targets in some industrialized countries, greenhouse gas reductions in developing countries on a project-by-project basis, and by sending a signal to industry and policymakers everywhere that a carbon-constrained future may become reality. But a much more ambitious treaty is needed than the first round of the Kyoto Protocol, and developing countries must be involved.

Some observers have argued that what is needed is an 'historical compromise between the rich world and the poor', involving tight emissions targets and large payments to poor countries to compensate them for development options that they will have to forego.[32] How compensation there should be or needs to be is contentious, though it seems clear that some degree of North-South transfers will be necessary. No matter whether a future agreement relies on Kyoto-style emissions targets or on other mechanisms, the fundamental quest is to make economic activity more environmentally sustainable in all countries.

Rich nations will need to act at home, and assist poorer societies in the transformation to lower emissions trajectories. Developing countries in turn will need to recognize that they cannot follow the energy-intensive path that the rich world took. Countries differ greatly in their stage of development, capacity to reduce greenhouse gases, and vulnerability to climate change, and these differences must be recognized. If the Kyoto Protocol can send a positive signal and help build trust, it may be the first step on the long road to a comprehensive global climate agreement.

[32] Tom Athanasiou and Paul Baer, *Dead heat: Global justice and global warming*, New York, 2002.
[33] Athanasiou and Baer 2002.

Acknowledgements

A number of colleagues helped out with background information and comments. Special thanks to Paul Baer, Ben Pearson, Kevin Baumert, Claudio Forner, and Robyn Eckersley. Any remaining errors in fact or interpretation are mine.

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